(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

10/53828938280

(19) World Intellectual Property Organization

International Bureau

(43) International Publication Date 1 July 2004 (01.07.2004)

PCT

(10) International Publication Number WO 2004/055581 A1

(51) International Patent Classification⁷:

G02F 1/1335

Agent. AOKI Hipogoshi: c/o Philips Japan I td. Philips

(21) International Application Number:

PCT/IB2003/005948

(22) International Filing Date:

11 December 2003 (11.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2002-365325

17 December 2002 (17.12.2002) JP

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): UKAWA, Yusei [JP/JP]; c/o Philips Japan, Ltd., Philips Bldg., 2-13-37, Kohnan, Minato-ku, Tokyo 108-8507 (JP). (74) Agent: AOKI, Hiroyoshi; c/o Philips Japan, Ltd., Philips Bldg., 2-13-37, Kohnan, Minato-ku, Tokyo 108-8507 (JP).

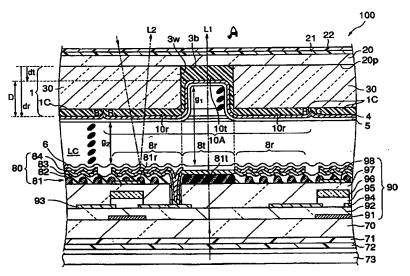
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COLOR FILTER AND LIQUID CRYSTAL DISPLAY DEVICE USING IT, AND THEIR MANUFACTURING METH-



(57) Abstract: An object of the invention is to acquire uniform color purity within a pixel to make a good color reproduction and to easily manufacture it with few constraints. A color filter for coloring a first light ray L1 having a unidirectional optical path and a second light ray L2 having a bidirectional optical path for each pixel (10). The color filter comprises: a first coloring portion 10t for coloring the first light ray L1 and a second coloring portion L2 for coloring the second light ray L2, the first coloring portion 10t having a greater thickness than the second coloring portion 10r, the first coloring portion 10t being formed in subsidence with respect to the second coloring portion 10r with a principal plane of the first coloring portion 10t being different in height from a principal plane of the second coloring portion 10r by a predetermined value D.

